FOLIA TAXONOMICA 4. CONSPECTUS OF *MYRIOPUS* (HELIOTROPIACEAE: BORAGINALES) IN THE GUIANA SHIELD

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ABSTRACT

The conspectus lists the five taxa of newly resurrected *Myriopus* Small (Heliotropiaceae) present in the Guiana Shield flora. The synonymy and four new combinations are included.

RÉSUMÉ

Le conspectus donne les cinq taxa du genre récemment reconnu *Myriopus* Small (Heliotropiaceae) présents dans la flore du Bouclier Guyanais. La synonymie et quatre combinaisons nouvelles sont incluses.

In the past few years, a better understanding of the relationship between taxa of the Boraginales was the focus of several papers through the re-examination of old and the gathering of new morphological data and the analysis of molecular data (Diane et al. 2002, 2003; Hilger & Diane 2003; Gottschling et al. 2005; Miller & Gottschling 2007). Familial and generic limits have been re-considered. In the preparation of the treatment of the Boraginales for the Flora of the Guianas, I had to decide whether I should follow the traditional taxonomy as used for the Boraginaceae treatments in "Flora of Venezuelan Guayana" (Miller et al. 1997) and in "Checklist of the Plants of the Guiana Shield" (Feuillet et al. 2007) or to adapt it to reflect the changes proposed since 1997 in the systematic of this group. As it is often the case with work in progress, some proposals should be adopted, like the separation of *Varronia* P.Br. from *Cordia* L. (Cordiaceae) and of *Myriopus* Small from *Tournefortia* L. (Heliotropiaceae), when other aspects need further work including more species in the data sets, like the split of *Heliotropium* L. and its relation with *Tournefortia* s.s. Currently less than 10% of the species have been analyzed in the whole Heliotropiaceae and it is likely that some major clades of *Heliotropium* s.l. and *Tournefortia* s.s. are missing from the data sets.

The part of the new classification of the Heliotropiaceae proposed by Diane and her colleagues that is most likely to resist larger sampling is the separation of *Myriopus* from *Tournefortia* and its standing as a sister group to *Heliotropium* s.l. and *Tournefortia* s.s. It was pointed out by Johnston (1930) that his new *Tournefortia* sect. *Cyphocyema* I.M. Johnst. was distinct from the core of *Tournefortia*. He suggested on a morphological basis that the two sections of *Tournefortia* were closer to other genera than to each other. Small (1933) included two species of sect. *Cyphocyema* in his new genus *Myriopus* and said there was more Neotropical species. The morphological characters that separate *Myriopus* apart from *Tournefortia* s.s. are its elongated corolla lobes, narrow with involute margin, its anthers connate and always hairy at apex, its drupoid fruits distinctly lobed and not dividing into mericarpids, its four 1-seeded endocarpids that are strongly curved, and its curved embryos (Johnston 1930; Diane et al. 2002). The molecular and morphological data sets used by Diane et al. (2002, 2003), Hilger and Diane (2003) confirmed the deep separation between *Tournefortia* sect. *Cyphocyema* and most of the Heliotropiaceae. The *Cyphocyema/Myriopus* branch is supported by bootstrap percentages of 100% in all trees. Logically Diane et al. (2002) proposed to use *Myriopus* Small as a generic name for the species of *Tournefortia* sect. *Cyphocyema*. The conspectus presented below is listing the taxa of *Myriopus* present in the Guianas (Guyana, Surinam & French Guiana) and the Venezuelan Guayana (Amazonas, Bolivar & Delta Amacuro), the most part of a region often referred to as

the Guiana Shield or Guayana Shield. Four taxa from the Guianas did not have a name in *Myriopus* and needed a new combination.

KEY TO THE GENERA OF HELIOTROPIACEAE IN THE GUIANAS

1. Herbs. Fruits usually dry when fresh _____ **Heliotropium**
1. Shrubs or lianas. Fruits fleshy when fresh.
   2. Corolla lobes linear or long acuminate. Fruits evidently lobed, obscurely bicarpellate, consisting of 4 similar 1-seeded nutlets. Embryos curved. _____ **Myriopus**
   2. Corolla lobes broad and rounded. Fruits obscurely if at all lobed, evidently bicarpellate, breaking up into 1- or 2-seeded irregular nutlets. Embryos straight _____ **Tournefortia**

Myriopus candidulus (Miers) Feuillet, comb. nov. BASIONYM: *Messerschmidia candidula* Miers, Ann. Mag. Nat. Hist. ser. 4, 2:202. 1868. *Tournefortia candidula* (Miers) I.M. Johnst., Contr. Gray Herb. 92:84. 1930. TYPE: BRAZIL: *Gardner1078* (HOLOTYPE: BM; ISOTYPES: K, NY).

= *Tournefortia lanuginosa* Vaupel, Notizbl. 6:183. 1914. TYPE: BRAZIL: *Ule 9097* (HOLOTYPE: BD (n.v.); ISOTYPE: K)

Myriopus maculatus (Jacq.) Feuillet, comb. nov. BASIONYM: *Tournefortia maculata* Jacq., Enum. Syst. Pl. 14. 1760; Select. Stirp. Amer. Hist. 47. 1763. TYPE: COLOMBIA: Cartagena, "Habitat Carthagenae in arbustis & sepibus" (n.v.).

= *Tournefortia syringaefolia* Vahl, Symb. Bot. 3:23. 1794. TYPE: FRENCH GUIANA: *von Rohr s.n.* (HOLOTYPE: C (n.v.); ISOTYPE: BM).
= *Tournefortia peruviana* Poiret, Encycl. Suppl. 4:425. 1816. *T. volubilis* sensu Ruiz & Pav. (non L. 1753), Flor. Per. 2:24, tab. 148. 1799. *T. scandens* Willd. (non Mill. 1768), Enum. Pl. 1:188. 1809. TYPE: PERU. Pasco. Pozuzo, *Ruiz & Pavón s.n.* (HOLOTYPE: MA (n.v.); ISOTYPE: US). The US specimen in the type collection, under *T. scandens* Willd., has a label with handwritten "*Tournefortia volubilis* Fl. Peruv. 2 Zap. 48 ..." and " ex herbario Fl. Peruv. anno 1828," and off that label, Killip's handwriting, "Type of *T. volubilis* R. & P. = *T. peruviana* Poir." and "Part of type ex herb. Madrid Ruiz & Pavon."
= *Tournefortia surinamensis* A. DC., Prodr. 9:526. 1845. TYPE: SURINAM. *Hostmann 951* (HOLOTYPE: G-BOISS).
= *Tournefortia hostmannii* Kl. ex Schomb., Fauna Fl. Brit. Guiana 1151. 1848, nom. nud., based on *Hostmann 285* (BD, BM, K, P).

Myriopus paniculatus (Chamisso) Feuillet, comb. nov. BASIONYM: *Tournefortia paniculata* Chamisso, Linnaea 4:468. 1829. TYPE: *Sellow* (B, extant?).

Myriopus paniculatus var. **spigeliiflorus** (A. DC.) Feuillet, comb. nov. BASIONYM: *T. spigeliaeflora* A. DC., Prodr. 9:525. 1845. *Tournefortia paniculata* Chamisso var. *spigeliiflora* (A. DC.) I.M. Johnst., J. Arnold. Arbor. 16:49. 1935. TYPE: GUYANA: *Rob. Schomburgk ser. 2, 427* (HOLOTYPE: G-BOISS; ISOTYPES: BM, K, P).

Myriopus volubilis (L.) Small, Man. S.E. Fl. 1131. 1933. *Tournefortia volubilis* L., Sp. Pl. 140. 1753. LECTOTYPE: "Bryonia nigra fruticosa, racemi ramulis varie implicitis, atq. caudae scorpionis instar in se contortis, baccis albis una vel altera nigra macula notatis" in Sloane, Voy. Jamaica 1: t. 143, f. 2. 1707.
= *Tournefortia floribunda* sensu Schomburgk, Fauna u. Fl. Brit. Guian. 1084. 1848. non Kunth 1818.

KEY TO THE GUIANAN SPECIES

1. Leaves densely white-tomentose on lower surface, grayish green pubescent on upper surface; inflorescence terminal with short lateral branches, appearing as a very contracted panicle; fruits white-pubescent. (Guyana) _____ **M. candidulus**
1. Leaves glabrous or pubescent, never white-tomentose; inflorescence terminal or axillary, paniculate with long lateral branches or a glomerulate with short branches; fruits never white-pubescent.
   2. Corolla tube 1.5-2.5 mm long, constricted at throat, lobes linear, nearly as long as the tube; fruit white. (Guyana, Surinam, French Guiana) _____ **M. volubilis**
   2. Corolla tube 3-8 mm long, not constricted at throat, lobes broadened below middle, acuminate, half as long as the tube or less; fruit yellowish, pedicel thickening in fruit.
      3. Leaves, young stems and inflorescence sparsely short strigose, or glabrous; corolla lobes narrow triangular to linear. (Guyana, Surinam, French Guiana) _____ **M. maculatus**
      3. Leaves, young stems and inflorescence evidently and usually abundantly hairy; corolla lobes triangular, long acuminate. (Guyana, Surinam, French Guiana) _____ **M. paniculatus** var. **spigeliiflorus**

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